

INDEFENSIBLE: \$706 MILLION AND 16 YEARS DEVELOPING A NAVY MINEHUNTING SYSTEM THAT DOESN'T REALLY WORK

This summer, the Navy has continued to struggle to test its Remote Minehunting System (RMS), a key technology intended to help navy ships find and destroy sea-based mines. The system has been unable to consistently meet the Navy's required rate for hunting mines in a particular area. This wouldn't be such a bad news story had this been an initial test of a newly designed, highly experimental technology. Unfortunately, it is the latest in a series of key tests of operational capability after the Navy has already spent 16 years and invested \$706 million trying to get the system right. This demonstrates yet another failure of the current DOD acquisition process.

In the late 1990s, the Navy began development of RMS to hunt enemy sea mines. The concept entailed a Navy ship deploying a semi-submersible unmanned vehicle towing a sonar to a suspected minefield, which could even be out of the line-of-sight of the ship. Once in the minefield, the RMS would detect mines and communicate the information back to the ship in real-time so the mines could be avoided or destroyed. The Navy originally planned to use RMS on its destroyers but has since then decided only to use the system on the Littoral Combat Ship (LCS), as part of its Mine Countermeasures mission.



Source: defensetech.org

A review of the Navy's plans versus what has actually been accomplished reveals RMS as the epitome of wasteful acquisition spending, as shown in the table below.¹ Put simply, while estimated overall spending on RMS is only a little higher than originally planned, it is only yielding half the number of systems, at more than double the unit cost, and it is taking twice as long to field it. Also, it doesn't work.

	FY 2007 Plan	FY 2015 Plan
Acquisition Cost	1.4 billion	\$1.5 billion
Number of systems	108	54
Cost per system	\$13 million	\$29 million
Years to develop	8 years	17 years

¹ DOD. Remote Minehunting System Selected Acquisition Reports. December 2006 and 2014

In 2007, the Navy tried testing RMS on one of the six destroyers that had been configured to use it, but the Navy program manager pulled the plug on testing after six days because the system was not working reliably enough to even attempt it.² In 2008, after some redesign, testing continued to show poor reliability, and the Navy cancelled plans for more testing and opted to conduct an “assessment,” or a paper test,³ instead of an actual functional test. Despite having not fully tested the system to see if it worked, the Navy decided to buy another RMS. By 2009, RMS costs had grown 80 percent in a significant violation of acquisition rules, known as a Nunn-McCurdy breach.⁴ It had also become quite clear that the Navy did not plan to use RMS on the destroyers anymore, even though it had already paid to outfit them.

Over the years, the Government Accountability Office (GAO) and the independent Director of Operational Test and Evaluation (DOT&E), the DOD’s head weapons tester, have taken the Navy to task for not following common sense best acquisition practices—like making sure RMS works the way it should by testing its basic functions before committing to buy more, and making sure that testing reflects the conditions in which sailors would actually operate RMS versus relying on artificial, even implausible, conditions. GAO noted in 2013 that, in spite of starting development more than 20 years ago, the towed sonar could not detect certain mines, and falsely identified other objects as mines.⁵ In its 2014 annual report, DOT&E noted RMS *“had not demonstrated sufficient performance or successful integration with interfacing LCS systems to demonstrate the Navy’s minimum ... capability, and developmental testing completed in fiscal year 2015 demonstrated continued performance issues and ... integration challenges.”*⁶

Translation: the system cannot effectively perform its missions.

The Department has repeatedly given the Navy exceptions to acquisition rules, approving the acceleration of production and sustaining the program with the rationale that RMS is absolutely critical to “keep the sailor out of the minefield.” Facing program cancellation as a result of the 2009 Nunn-McCurdy breach, and despite years of testing failures, in 2010 the Navy still fought for RMS. In doing so, it cited issues with systems engineering, contracting, quality of program management staff, and cost and schedule oversight—caused in part by a bad initial cost estimate—as contributing to cost growth and delays. Although acknowledging

² DOT&E. FY 2007 Annual Report. January 2008.

³ DOT&E. FY 2008 Annual Report. January 2009.

⁴ DOD. Remote Minehunting System Selected Acquisition Report Dec 2009. The Nunn-McCurdy Act (10 U.S.C. § 2433) requires DOD to report to Congress whenever a major defense acquisition program experiences cost overruns that exceed certain thresholds. The purpose of the act was to help control cost growth in major defense systems by holding the appropriate Pentagon officials and defense contractors publicly accountable and responsible for managing costs.

⁵ GAO-13-530. Significant Investments in the Littoral Combat Ship Continue Amid Substantial Unknowns about Capabilities, Use, and Cost.

⁶ DOT&E. FY 2014 Annual Report. January 2015.

that the program had been poorly managed, the Department nonetheless certified to Congress that it was on the mend.⁷

Unfortunately though, this is not the case. Since the 2010 recertification, the original RMS performance requirements have been lowered on an “interim” basis. As a result, the system appears to be making progress when in reality it is not. The Navy has already bought 10 RMS vehicles and 6 towed sonars. However, poor performance in testing and equipment obsolescence, given how long the systems have been in development, have led the Navy to start “upgrade” efforts for both the vehicle and the sonar. It is difficult to understand how the Navy plans to “upgrade” a system that has never been operational to begin with.

This is not a very cost-effective or efficient approach. The RMS testing in 2015 continues to show performance challenges:

- The vehicle cannot be reliably controlled by the ship or communicate when it is operating out of the line-of-sight of the ship; and
- The towed sonar cannot detect mines consistently; for the mines it can detect, it cannot do it nearly as quickly as the Navy requires; and it cannot seem to find certain mines at all.

Most damning of all, according to the Director of DOT&E, there is “*no performance data to date to suggest that the [RMS] will eventually achieve [its] requirements*”.⁸ Indeed, in an August 2015 memo to the Under Secretary of Defense for Acquisition, Technology and Logistics regarding RMS testing this summer, the Director of DOT&E noted, “recent developmental testing provides no statistical evidence that the system is demonstrating improved reliability, and instead indicates that reliability plateaued nearly a decade ago.” He went on to say that Navy testers “inflated” figures and also “dismissed several critical failures” during operational testing to make the reliability appear more favorable.⁹

Having already sunk more than \$700 million into RMS since 1999, the Navy does not want to give up. While DOT&E notes that the existing inventory of vehicles and sonars is sufficient to complete the planned RMS testing program, the Navy has repeatedly asked Congress to fund more of these poorly performing systems, before actually figuring out how to make it work. The request for funds for fiscal year 2016 showed that the cost of an individual unit is more than double the cost from last year. This is hardly a sign of improvement.

⁷ U.S. Navy. Report To Congress Remote Minehunting System Nunn-McCurdy Certification. June 2010.

⁸ Correspondence with DOT&E, May 2015

⁹ DOT&E. Memorandum for Under Secretary of Defense for Acquisition, Technology and Logistics. Remote Multi-Mission Vehicle (RMMV) and Remote Minehunting System (RMS) Reliability. August 3, 2015.

RMS has become another sad case of wasteful defense spending. Rather than throwing more good money after bad, DOD should start looking at alternatives better suited and more cost-effective to performing the mine-hunting mission.